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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/527,633	10/07/2005	Martyn Vincent Twigg	JMYT-348US	2150

23122 7590 12/20/2007

RATNERPRESTIA
P O BOX 980
VALLEY FORGE, PA 19482-0980

EXAMINER	
VANOY, TIMOTHY C	

ART UNIT	PAPER NUMBER
1793	

MAIL DATE	DELIVERY MODE
12/20/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/527,633	TWIGG ET AL.	
	Examiner	Art Unit	
	Timothy C. Vanoy	1793	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *14 March 2005*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *9,11-18,22-24,28,33-35,40,44 and 47-52* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *9,11-18,22-24,28,33-35,40,44 and 47-52* is/are rejected.

7)☒ Claim(s) *44* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *See Continuation Sheet*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

Continuation of Attachment(s) 3). Information Disclosure Statement(s) (PTO/SB/08), Paper No(s)/Mail Date :09-07-2007; 06-11-2007; 11-07-2006; 05-10-2006; 10-07-2005.

DETAILED ACTION

Priority

Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Specification

a) The disclosure is objected to because of the following informalities: The print is illegible at the bottom of pgs. 2, 8, 10, 14 and 16.

Appropriate correction is required.

Claim Objections

a) Claim 44 is objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of previous claim 9 *in as much as* claim 44 is drawn to specific diesel engines while claim 9 is drawn to an apparatus (per se) and not a diesel engine. Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claim 35 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

a) It is not clear what is intended by the limitation: ". . . comprising from 0.1 to 10.0 % Pt by weight and from 0.1 to 2.0 % by weight based on the total weight of the supported part of the catalyst." set forth in Applicants' claim 35.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claim 44 is rejected under 35 U.S.C. 102(b) as being anticipated by the literature reference titled "Hydrocarbon (HC) Reduction of Exhaust Gases from a Homogeneous Charge Compression Ignition (HCCI) Engine Using Different Catalytic Mesh-Coatings" by Olof Erlandsson et al, supplied with the Applicants' IDS dated Nov. 7, 2006.

The title of this Erlandsson et al. sets forth a Homogeneous Charge Compression Ignition (HCCI) engine.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

The person having ordinary skill in the art has the capability of understanding the scientific and engineering principles applicable to the claimed invention. The references of record in this application reasonably reflect this level of skill.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 9, 11-18, 22-24, 28, 33-35, 40, 44 and 47-52 are rejected under 35 U.S.C. 103(a) as being unpatentable over EP 0 341 832 A2 to Cooper et al. in view of the Applicants' admission set forth on pgs. 1 and 2 in their specification.

The Cooper et al. reference describes an apparatus, diesel engine and method for removing contaminants (i. e. NO_x, etc.) out of the exhaust gas emitted from a diesel engine by passing the exhaust gas through a filter that may support both "a catalyst to catalytically generate oxidant NO_2 in situ" (please see pg. 9 lns. 27-28)(which happens to be Pt, Pd, etc.: please also see pg. 3 lns. 28-32) *as well as* base metal catalysts (please see pg. 2 ln. 54 to pg. 3 ln. 2).

The difference between the Applicants' claims and this Cooper et al. reference is that the Applicants' claims are specifically drawn to the treatment of exhaust gas emitted from a new generation of diesel engines such as a "homogeneous charge compression ignition" (HCCI) diesel engine or a "dilution controlled combustion system" (DCCS) diesel engine, which are characterized by: (i) emitting an exhaust gas during a specific engine operating mode that contains greater than 2,000 ppm carbon monoxide, and (ii) having an engine operating mode where substantially all of the fuel for combustion in the engine in injected into a combustion chamber of the engine prior to the start of combustion.

On pgs. 1 and 2 in the Applicants' specification, the Applicants concede that a new generation of compression ignition engines have been developed which use engine management techniques (in addition to exhaust gas aftertreatment) to reduce the emissions emitted from a diesel engine (such as injecting substantially all of the fuel for combustion into the combustion chamber prior to the start of combustion). Such new generation of diesel engines include the Homogeneous Charge Compression Ignition (HCCI) diesel engine and the Dilution Controlled Combustion System (DCCS) diesel

engine, and these new engines are characterized by producing higher levels of carbon monoxide relative to conventional direct injection diesel engines.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made *to have modified* the apparatus and process described in the Cooper et al. reference *by substituting* the conventional, old diesel engine from which the Cooper et al. reference treats the exhaust gas *with* a new generation diesel engine (such as the HCCI or DCCS diesel engines discussed on pgs. 1 and 2 in the Applicants' specification and called for the Applicants' claims), in manner that would arrive the invention of the instant claims, *because* the courts have already determined that such substitution of one known functional equivalent in lieu of another known functional equivalent (which are useful for the same purpose) is *prima facie* obvious: please note the discussion of the *In re Fout* 675 F.2d 297, 213 USPQ 532 (CCPA 1982) court decision set forth in section 2144.06(II) in the MPEP.

Double Patenting

The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

Claims 9, 11-18, 22-24, 28, 33-35, 40, 44 and 47-52 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-3, 13-21, 25, 30-34 and 36-47 of copending Application No. 10-527,634.

Although the conflicting claims are not identical, they are not patentably distinct from each other because the claims of both 10-527,633 and 10-527,634 describe the same apparatus and process, comprising:

a diesel engine;

a means for controlling the operating mode of the diesel engine; and

an engine exhaust system comprising a catalyst containing a platinum group metal and a base metal.

The difference between the claims of 10-527,633 and the claims of 10-527,634 is that the claims of 10-527,634 sets forth that the catalyst is a NO oxidation catalyst, *however* it is submitted that this difference would have been obvious to one of ordinary skill in the art at the time the invention was made *because* it is submitted that the same catalyst will inherently exhibit the same properties such as the claimed NO oxidation, and such recognition of inherent properties present the prior art is *prima facie* obvious:

please note the discussion of the *In re Wiseman* 596 F.2d 1019, 201 USPQ 658 (CCPA 1979) court decision set forth in section 2145(II) in the MPEP.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

U. S. Pat. 6,564,545 B1 disclosing the superintegration of three way catalyst and heat exchanger for HCCI engine intake air temperature control, is made of record.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Timothy C. Vanoy whose telephone number is 571-272-8158. The examiner can normally be reached on Mon-Fri 8-4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Stanley Silverman, can be reached on 571-272-1358. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Timothy C Vanoy
Primary Examiner
Art Unit 1793

tcv